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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/542,891	07/20/2005	Alphons Antonius Bruckers	NL 030069	1813

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EXAMINER

JOHNS, ANDREW W

ART UNIT

PAPER NUMBER

2624

MAIL DATE

DELIVERY MODE

05/20/2009

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

# Office Action Summary

**Application No.**

10/542,891

**Applicant(s)**

BRUEKERS ET AL.

**Examiner**

Andrew W. Johns

**Art Unit**

2624

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-13 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 20 July 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SF/86)
- Paper No(s)/Mail Date 7/20/05, 3/24/06
- 4) ☐ Interview Summary (PTO-413)
- Paper No(s)/Mail Date \_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_

## **DETAILED ACTION**

### ***Claim Rejections - 35 U.S.C. § 101***

1. 35 U.S.C. § 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

M.P.E.P. § 2106.01 II. reads as follows:

Nonfunctional descriptive material that does not constitute a statutory process, machine, manufacture or composition of matter and should be rejected under 35 U.S.C. 101. Certain types of descriptive material, such as music, literature, art, photographs and mere arrangements or compilations of facts or data, without any functional interrelationship is not a process, machine, manufacture or composition of matter. USPTO personnel should be prudent in applying the foregoing guidance. Nonfunctional descriptive material may be claimed in combination with other functional descriptive multi-media material on a computer-readable medium to provide the necessary functional and structural interrelationship to satisfy the requirements of 35 U.S.C. 101. The presence of the claimed nonfunctional descriptive material is not necessarily determinative of nonstatutory subject matter. For example, a computer that recognizes a particular grouping of musical notes read from memory and upon recognizing that particular sequence, causes another defined series of notes to be played, defines a functional interrelationship among that data and the computing processes performed when utilizing that data, and as such is statutory because it implements a statutory process.

2. Claim 13 is rejected under 35 U.S.C. § 101 because the claimed invention is directed to non-statutory subject matter.

Claim 13 recites a recordable medium carrying data having a watermark, which does not impart functionality to a computer or computing device, and is thus considered nonfunctional descriptive material. Such nonfunctional descriptive material, in the absence of a functional interrelationship with a computer, does not constitute a statutory process, machine, manufacture or composition of matter and is thus non-statutory per se. Non-functional descriptive is non-statutory regardless of whether it is claimed as residing on a computer readable medium.

### ***Claim Rejections - 35 U.S.C. § 112***

3. The following is a quotation of the first paragraph of 35 U.S.C. § 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the

art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

The following is a quotation of the second paragraph of 35 U.S.C. § 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 11-12 are rejected under 35 U.S.C. § 112 first and second paragraphs as attempting to define a product (i.e., machine or apparatus) entirely by virtue of its function, in the absence of any recited structure.

Products must distinguish over the prior art in terms of their structure (or structure + structure's function when claimed functionally) rather than function alone (M.P.E.P. § 2114). Therefore, an "apparatus" not having structural limitations fails to "particularly point out and distinctly claim ..." the invention in accordance with 35 U.S.C. § 112, second paragraph.

Furthermore, while the specification disclosure may be enabling for a plurality of structural elements performing the claimed functions<sup>1</sup>, the specification does not reasonably provide enablement for a single structural element (or no structural elements) performing all of the claimed functions. That is, given the claim in question, the specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make the invention commensurate in scope with these claims ("A single means claim, i.e., where a means recitation does not appear in combination with another recited element of means, is subject to an undue breadth rejection under 35 U.S.C. § 112, first paragraph" because a single means claim covers "every conceivable means for achieving the stated purpose" and "the

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<sup>1</sup> Even when an apparatus is disclosed as being computer implemented (e.g., software implemented on hardware), the requirement remains that there be some structure recited in the body of the claim (e.g., a processor and a memory storing a program which when implemented performs the method steps). For purposes of "means plus function" language, individual disclosed steps corresponding to computer program elements operating on a processor (e.g., inputting, filtering, detecting and resolving) may be considered as separate means (*Dossel*, 115 F.3d at 946-47, 42 USPQ2d at 1885).

specification disclosed at most only those means known to the inventor” - M.P.E.P. § 2164.08(a)).

Applicant is advised to define the apparatus by virtue of the individual structural element that serve to perform the individual functions recited in the corresponding method claim.

***Claim Rejections - 35 U.S.C. § 102***

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. § 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

6. Claims 10 and 12 are rejected under 35 U.S.C. § 102(e) as being anticipated by Jones et al. (US 6,792,130 B1).

Jones et al. teaches a method of detecting a watermark in a signal (shown generally in Figure 4) comprising checking a first signal of interest for at least one two-part watermark, a first part of each watermark comprising an identifier portion (i.e., the carrier) and at least one corresponding information portion (i.e., the message); checking the or each identifier portion for correspondence with an identifier portion in a set of known identifier portions (38, 44 in Figure 4, where the carrier is determined to be one of a set of multiple carriers); and extracting each identifier portion corresponding to a number of the set to give its corresponding information portion, to thereby allow use of the information portion (46 in Figure 4), as required by claim 10. Furthermore, Jones et al. also teaches a watermark detector operable to perform this method (column 3, lines 48-54; where the computer is programmed to perform the disclosed operations),

as further required by claim 12. Therefore, Jones et al. meets each of the limitations of the invention, as stipulated by claims 10 and 12, and anticipates the claimed invention.

***Claim Rejections - 35 U.S.C. § 103***

7. The following is a quotation of 35 U.S.C. § 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 1-6, 9, 11 and 13 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Jones et al. as applied to claims 10 and 12 above, and further in view of Lie et al. (article entitled "Robust Image Watermarking on the DCT Domain", cited by applicant in the IDS filed 26 March 2006).

With respect to claim 1, Jones et al. teaches selecting an identifier portion from a set of identifier portions (i.e., selecting a carrier from a set of carriers; 40 in Figure 3) and combining the identifier portion with an information portion (i.e., message 14 in Figure 3), to produce a watermark for embedding (42 in Figure 3). However, Jones et al. fails to specifically teach checking a signal for a two-part watermark and selecting a different identifier portion when such a watermark is detected, as further required by claim 1.

Lei et al. teaches a method for embedding multiple watermarks that first checks a signal for a watermark (step (1) in section 3.A. Embedding Algorithm on page I-229). When no previous watermark is detected, a first watermark is embedded (step (2) in Section 3.A. Embedding Algorithm on page I-229), but when a watermark is detected, selecting a different

watermark to embed (i.e., a different watermark from an orthogonal set of watermarks (see Section 3: Multiple Watermarking on page I-229).

Because the use of multiple watermarks in the manner taught by Lei et al. allows a plurality of watermarks to be embedded without interfering with each other (final sentence in section 1: Introduction on page I-228) and provides for more versatile applications (point (4) in section 5: Conclusions on page I-230), it would have been obvious to one of ordinary skill in the art that designing the plurality of carriers in the Jones et al. system to be orthogonal would allow for this increased capacity and versatility in applying the watermarks.

Jones et al. further teaches that the information portion of the watermark includes the payload, having information or instructional content (i.e., the message  $M(x,y)$ , 14 in Figure 3), as further required by claim 2; that the identifier is a carrier (40 in Figure 3), and that the information (i.e., the message; 14 in Figure 3) modulates the identifier (42 in Figure 3), as additionally required by claim 9; that the watermarking method is performed by a watermark embedder (column 3, lines 48-54), as required by claim 11; and that the watermarked data can be stored in a recordable medium (the watermarked frames are inherently stored in some medium in order for the technique to have utility—otherwise the embedding is transitory and fails to provide any meaningful use such as prevention of copying as discussed at column 8, lines 9-20). Furthermore, Lie et al. teaches that the watermarks are orthogonal to one another (second paragraph in section 3: Multiple watermarking on page I-229), as further required by claims 3 and 4. Finally, the use of orthogonal carriers to convey the message in Jones et al., as suggested by Lei et al. would permit the use of plural two-part watermarks, as required by claims 5 and 6.

9. Claims 7-8 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Jones et al. and Lei et al. as applied to claims -6, 9, 11 and 13 above, and further in view of Lubin et al. (US 2003/0021439 A1).

While Jones et al. and Lei et al. meet a number of the limitations of the claimed invention, as set forth more fully above, neither Jones et al. nor Lei et al. specifically teach that the set of identifier portions is in the form of a list, where the first unused identifier in the list is used for combination with the information portion, as required by claim 7 or that the watermark includes a label that indicates which identifier is to be used next, as set forth in claim 8.

Lubin et al. teaches embedding a watermark that includes both an identifier portion (i.e., a carrier) and an information portion (i.e., watermark data 210 in Figure 2) where the information portion is used to modulate the identifier portion (214 in Figure 2), and where the identifier portion is selected as the next available carrier in a list of carriers (304 in Figure 3), and the watermark includes a label that identifies the next carrier to be used (paragraph [0051]). Because the technique of carrier selection used by Lubin et al. allows for a more accurate recovery of the watermarked data, it would have been obvious to use such a technique in selecting the carriers in Jones et al.

### *Conclusion*

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Andrew Johns whose telephone number is (571) 272-7391. The examiner is normally available Monday through Friday, at least during the hours of 9:00 am to 3:00 pm Eastern Time. The examiner may also be contacted by e-mail using the address: andrew.johns@uspto.gov. (Applicant is reminded of the Office policy regarding e-mail communications. See M.P.E.P. § 502.03)

If attempts to reach the examiner are unsuccessful, the examiner's supervisor, Bhavesh Mehta, can be reached at (571) 272-7453. The fax phone number for this art unit is (571) 273-8300. In order to ensure prompt delivery to the examiner, all unofficial communications should be clearly labeled as "Draft" or "Unofficial."



Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center Receptionist whose telephone number is (571) 272-2600.

A. Johns  
18 May 2009

/Andrew W. Johns/  
Primary Examiner, Art Unit 2624